

Solar System Tests for Changing Gravity

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There is a three decade span of laser ranges to the Moon plus radar and spacecraft-derived ranges to the terrestrial planets. Analyses of the lunar and planetary data yield estimates of the rate of change of the gravitational constant G relative to G . Solutions using different data sets give uncertainties from 1.1×10^{-12} /yr to 1.8×10^{-12} /yr.

The sensitivity increases quadratically with time, so future ranges will allow improved tests for the variation of G .